

REMARKS

In view of the above amendments and the following remarks, reconsideration and further examination are respectfully requested.

I. Amendments to the Specification

As mentioned above, the specification has been amended to describe the limitations illustrated in Fig. 3. No new matter has been added, since all features of the drawings must be considered to be part of the disclosure of the specification.

II. Amendments to the Claims

Claim 1 has been amended to further distinguish the claimed invention from the prior art relied upon in the rejection discussed below.

Support for the amendments to claim 1 can be found, at least, in paragraphs [0011] and [0064] of the publication of the present application.

III. 35 U.S.C. § 112 First Paragraph Rejection

Claims 1 and 7-10 were rejected under 35 U.S.C. § 112, first paragraph for reciting subject matter not described in the specification. Specifically, claims 1 and 7-10 were rejected for reciting that the vent holes are only located in the two side faces of the light transmitting shield, which is allegedly not described in the specification. This rejection is respectfully traversed for the following reasons.

Fig. 3 of the present application clearly illustrates that the vent holes 15 are only located in the two side faces 9a of the light transmitting shield 9. Accordingly, since the figures (i.e.,

Fig. 3) must be considered part of the disclosure of the specification and because Fig. 3 clearly illustrates that the vent holes are only formed in the two opposing and non-adjacent sides of the light transmitting shield, the Applicants respectfully submit that this 35 U.S.C. § 112, first paragraph rejection is incorrect. As a result, withdrawal of this 35 U.S.C. § 112, first paragraph rejection is respectfully requested.

However, in order to avoid any further delay in the prosecution of this application, the specification has been amended, as mentioned above, to specifically state “For example, as illustrated in Figure 3, according to one aspect of the invention the vent holes 15 are only located in the two side faces 9a of the light-transmitting shield 9.” Again, the Applicants note that this amendment to the specification is clearly supported by the illustration of Fig. 3 and, as a result, no new matter has been added. Therefore, for this additional reason, withdrawal of this 35 U.S.C. § 112, first paragraph rejection is respectfully requested.

IV. 35 U.S.C. § 103(a) Rejection

Claims 1 and 7-10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Cole et al. (U.S. 2003/0101645), JP11-56118, Knablein et al. (U.S. 4,291,494), and Lai (U.S. 5,983,562).

Amended independent claim 1 recites an apparatus capable of producing seedlings without requiring a waterproof structure from seedling culture to welding. Further, claim 1 recites that the apparatus includes a closed-type structure, seedling culture shelves including a plurality of shelf boards disposed within the closed-type structure, a plurality of fans capable of generating an air stream and being installed on each of the seedling culture shelves, a carbon dioxide gas supply unit, and a light-transmitting shield detachably disposed to cover grafted

seedlings mounted on each of the plurality shelf boards. In addition, claim 1 recites that the light-transmitting shield includes a plurality of vent holes and includes two side faces that are opposing and non-adjacent side faces of the light-transmitting shield, and recites that the plurality of vent holes are formed only in the two side faces of the light-transmitting shield, such that the plurality of vent holes are formed only in the opposing and non-adjacent side faces of the light-transmitting shield, so as to make the acclimatization unnecessary during the welding of the seedlings.

Initially, please note that the above-described 35 U.S.C. § 103(a) rejection indicates that the combination of Cole, JP 11-56118, Knablein and Lai is silent in regards to the vent holes being formed only in the two side faces, as required by claim 1. The rejection then indicates that such features would have been an obvious modification of Cole in view of JP 11-56118, Knablein and Lai (see pages 6 and 9 of the Office Action). However, it is respectfully submitted that the above-mentioned structure, as required by claim 1, would not have been an obvious modification of Cole in view of JP 11-56118, Knablein and Lai for the following reasons.

First, the invention of Lai, which was relied upon for suggesting the structure of the vent holes (as recited in claim 1), requires vent holes 222 and 262 to be formed on all sides of a structure formed by a transparent box 22 and a transparent hood 26 (see Fig. 1 and col. 2, lines 41-54).

Thus, in view of the above, it is clear that Lai requires the vent holes to be located on all sides of the box/hood structure, but fails to disclose or suggest forming the plurality of vent holes only in the two side faces of the light-transmitting shield, such that the plurality of vent holes are formed only in the opposing and non-adjacent side faces of the light-transmitting shield, as recited in claim 1.

Second, the Applicants note that the above-described structure of having the vent holes formed only in the opposing and non-adjacent side faces of the light-transmitting shield, as required by claim 1, provides an apparatus capable of producing seedlings without requiring a waterproof structure from seedling culture to welding, so as to make the acclimatization unnecessary during the welding of the seedlings. No such feature or advantages of the present invention, as recited in claim 1, are disclosed or suggested by Lai.

Moreover, if the box/hood structure having the vent holes formed on all sides were modified, as suggested in the Office Action, it is likely that the proposed modification would render the box/hood structure unsatisfactory for its intended purpose. Specifically, as described in Lai, the configuration of the vent holes 222 and 226 being located on all sides of the box/hood structure is to provide excellent ventilation [on all sides] (i.e., to provide an air exchange on all sides of the box/hood structure) (see col. 3, lines 24-28). However, if the box/hood structure were modified to only have the vent holes 222 and 226 on opposing and non-adjacent side faces (as required by claim 1), it could reduce the excellent ventilation and render the box/hood structure unsatisfactory for its intended purpose of providing an air exchange on all sides of the box/hood structure. Accordingly, such a modification would be improper. *In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984).

Additionally, if the box/hood structure were modified, as suggested in the Office Action, the proposed modification could change the principle of operation of the culture box assembly of Lai. Thus, the teachings of Lai are not sufficient to render the features of claim 1 obvious. *In re Ratti*, 270 F.2d 810 (CCPA 1959).

Moreover, given that Lai fails to disclose or suggest forming the plurality of vent holes only in the two side faces of the light-transmitting shield, such that the plurality of vent holes are

formed only in the opposing and non-adjacent side faces of the light-transmitting shield, as recited in claim 1, the modification of the box/hood structure of Lai to include such a feature would be based on improper hindsight reasoning. That is, “but for” the Applicants invention, as recited in claim 1, there is no suggestion or motivation in the prior art of record to have the vent holes formed only in the opposing and non-adjacent side faces of the light-transmitting shield, as required by claim 1, to provide an apparatus capable of producing seedlings without requiring a waterproof structure from seedling culture to welding, so as to make the acclimatization unnecessary during the welding of the seedlings, as required by claim 1.

Third, the invention of Knablein requires vent holes to be located on a single side of a light transmitting shield (see Fig. 1), which clearly fails to disclose or suggest forming the plurality of vent holes only in the two side faces of the light-transmitting shield, such that the plurality of vent holes are formed only in the opposing and non-adjacent side faces of the light-transmitting shield, as recited in claim 1.

Fourth, as discussed above, the above-described structure of having the vent holes formed only in the opposing and non-adjacent side faces of the light-transmitting shield, as required by claim 1, provides an apparatus capable of producing seedlings without requiring a waterproof structure from seedling culture to welding, so as to make the acclimatization unnecessary during the welding of the seedlings. No such feature or advantages of the present invention, as recited in claim 1, are disclosed or suggested by Knablein.

Moreover, if the structure having the vent holes formed on a single side were modified, as suggested in the Office Action, it is likely that the proposed modification would render the vent-hole structure of Knablein unsatisfactory for its intended purpose. Specifically, as described in Knablein, the configuration of the vent holes being located on a single side is so that

the user may control the flow of air between the atmosphere of the surrounding area and the greenhouse chamber (see col. 1, lines 25-28). However, if the vent-hole structure were modified to only have the vent holes 222 and 226 on opposing and non-adjacent side faces (as required by claim 1), it could reduce the ability of the user to easily control the flow of air between the atmosphere of the surrounding area and the greenhouse chamber and render the vent-hole structure unsatisfactory for its intended purpose. Accordingly, such a modification would be improper. *In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984).

Additionally, if the vent-hole structure were modified, as suggested in the Office Action, the proposed modification could change the principle of operation of the indoor greenhouse assembly of Knablein. Thus, the teachings of Knablein are not sufficient to render the features of claim 1 obvious. *In re Ratti*, 270 F.2d 810 (CCPA 1959).

Finally, given that Knablein fails to disclose or suggest forming the plurality of vent holes only in the two side faces of the light-transmitting shield, such that the plurality of vent holes are formed only in the opposing and non-adjacent side faces of the light-transmitting shield, as recited in claim 1, the modification of the vent-hole structure of Knablein to include such a feature would be based on improper hindsight reasoning. That is, “but for” the Applicants invention, as recited in claim 1, there is no suggestion or motivation in the prior art of record to have the vent holes formed only in the opposing and non-adjacent side faces of the light-transmitting shield, as required by claim 1, to provide an apparatus capable of producing seedlings without requiring a waterproof structure from seedling culture to welding, so as to make the acclimatization unnecessary during the welding of the seedlings, as required by claim 1.

Fifth, the Applicants note that the Cole reference would not work for its intended purpose if the invention of Cole were combined with the inventions of Lai and Knablein, so as to include vent holes on all sides or include vent holes on only one side.

Specifically, the invention of Cole teaches that a racking system 30 includes an inlet 32 and an outlet 33, so that the air flow from the inlet 32 to the outlet 33 distributes carbon dioxide across all of the growing beds of the racking system 30 (see paragraph [0055]). Accordingly, the structure required by Cole would not work for its intended purpose of transferring carbon dioxide from a single inlet across all of the growing beds to a single outlet, if the structure of Cole were modified to include vent holes on all sides or included vent holes on only one side, as disclosed by Lai and Knablein.

Furthermore (despite the fact that, as discussed above, Lai and Knablein fail to disclose or suggest the vent-hole structure required by claim 1), even if the invention of Cole were modified to include vent-hole structure required by claim 1, the structure required by Cole would not work for its intended purpose of transferring carbon dioxide from a single inlet across all of the growing beds to a single outlet, if the structure of Cole were modified to include vent holes located only at the opposing and non-adjacent side faces of the light-transmitting shield, as required by claim 1, to provide an apparatus capable of producing seedlings without requiring a waterproof structure from seedling culture to welding, so as to make the acclimatization unnecessary during the welding of the seedlings, as required by claim 1.

Additionally, given that Cole fails to disclose or suggest forming the plurality of vent holes only in the two side faces of the light-transmitting shield, such that the plurality of vent holes are formed only in the opposing and non-adjacent side faces of the light-transmitting shield, as recited in claim 1, the modification of the structure of Cole to include such a feature

would be based on improper hindsight reasoning. That is, “but for” the Applicants invention, as recited in claim 1, there is no suggestion or motivation in the prior art of record to have the vent holes formed only in the opposing and non-adjacent side faces of the light-transmitting shield, as required by claim 1, to provide an apparatus capable of producing seedlings without requiring a waterproof structure from seedling culture to welding, so as to make the acclimatization unnecessary during the welding of the seedlings, as required by claim 1.

Sixth, the Applicants note that the invention of Knablein and the invention of Cole are related to different categories of invention and should not modified or combined in view of their different purposes.

Specifically, the Applicants note that pages 3 and 4 of the Office Action state that “However, Cole et al. are silent about said respective artificial lighting device of said plurality of artificial lighting devices and a respective fan of said plurality of fans being installed on each of said seedling culture shelves; and a light-transmitting shield detachably disposed to cover the grafted seedlings mounted on each of said plurality shelf boards of said seedling culture shelves” (Emphasis added).

Furthermore, page 4 of the Office Action continues to recite that “Knablein et al. teach an apparatus for producing seedlings comprising a light-transmitting shield (12) detachably disposed to cover the grafted seedlings mounted on shelf boards/containers” (Emphasis added) .

However, the Applicants note that Knablein relates to and merely teaches a portable greenhouse which can use, at any location/position of the greenhouse, natural sunlight, but does not relate to producing seedlings as required by claim 1, which recites, for example, a closed-type structure surrounded by light-interceptive thermally insulating walls, multi-staged seedling culture shelves provided with a plurality of shelf boards capable of mounting grafted seedlings

and a plurality of fans capable of generating an air stream over each of said seedling culture shelves.

In other words, the inventive background and purpose of Knablein is quite different from that of the present invention. The purpose of the invention of Knablein is to provide a greenhouse for grafted seedlings. On the other hand, in the present invention, photosynthesis is carried out by the artificial lighting devices capable of projecting light onto the grafted seedlings, wherein the artificial lighting devices are installed on each of the seedling culture shelves in a “closed space” (i.e., the closed-type structure surrounded by the light-interceptive thermally insulating walls, as recited in claim 1) .

Seventh, as mentioned above, claim 1 recites that the apparatus produces seedlings without requiring a waterproof structure from seedling culture to welding, and recites that the plurality of vent holes are formed only in the two side faces of the light-transmitting shield, such that the plurality of vent holes are formed only in the opposing and non-adjacent side faces of the light-transmitting shield, so as to make the acclimatization unnecessary during the welding of the seedlings.

On the other hand, as briefly mentioned above, none of Cole, JP 11-56118, Knablein and Lai teaches producing seedlings without requiring a waterproof structure from seedling culture to welding, wherein the plurality of vent holes are formed only in the opposing and non-adjacent side faces of the light-transmitting shield, so as to make the acclimatization unnecessary during the welding of the seedlings, as required by claim 1.

Therefore, because of the above-mentioned distinctions it is believed clear that claim 1 and claims 7-10 that depend therefrom would not have been obvious or result from any combination of Cole, JP11-56118, Knablein and Lai.

Furthermore, there is no disclosure or suggestion in Cole, JP11-56118, Knablein and/or Lai or elsewhere in the prior art of record which would have caused a person of ordinary skill in the art to modify Cole, JP11-56118, Knablein and/or Lai to obtain the invention of independent claim 1. Accordingly, it is respectfully submitted that independent claim 1 and claims 7-10 that depend therefrom are clearly allowable over the prior art of record.

V. Conclusion

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance and an early notification thereof is earnestly requested. The Examiner is invited to contact the undersigned by telephone to resolve any remaining issues.

Respectfully submitted,

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